

ENVIRONMENTAL SERVICES INDUSTRY TRANSFORMATION MAP 2025

A Vibrant, Sustainable and Professional Environmental Services Industry for Singapore and Growing Cities



A Intensify innovation and technology adoption to improve productivity and moderate manpower demand

- Strengthen industry market-oriented innovation capability and capacity
- Spur and accelerate industry digital transformation efforts

B Nurture promising firms to seize new opportunities and growth areas

- Enhance export capabilities of technology and service providers
- Capture overseas growth opportunities



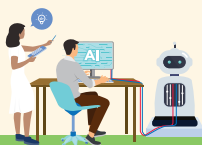
C Grow productive firms to enhance service delivery, capacity and resilience

- Broaden base of services by building capabilities for enterprises to provide integrated environmental services to serve multiple sectors
- Raise industry standards by driving change in procurement practices and business contracting models
- Drive growth mindset and leadership development through Enterprise Leadership for Transformation



D Create quality jobs and improve job prospects for lower-wage and senior workers

- Develop local talent pipeline to take on quality jobs through talent attraction programmes such as the NEA-Industry Scholarship and Career Conversion Programmes
- Improve prospects for lower-wage workers through job redesign and Progressive Wage Model to drive wage growth and career progression



For more information, please visit
www.nea.gov.sg/industry-transformation-map

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January 2023

Environmental Services Industry Transformation Map 2025

A vibrant, sustainable and professional environmental services industry for Singapore and growing cities



Intensify innovation and technology adoption to improve productivity and moderate manpower demand

Strengthen industry market-oriented innovation capability and capacity

Develop and deploy innovative technology and solutions

Turn national and industry challenges into value creation opportunities through research, development and innovation

Examples of funding initiatives and platforms that companies may leverage:

Closing the Resource Loop Funding Initiative
\$80m to support R&D on sustainable and circular resource recovery solutions and decarbonised waste treatment solutions



Scan here to find out more!



Green Economy Regulatory Initiative (GERI)

A one-stop platform of regulatory sandbox programmes to testbed green and novel proposals



Scan here to find out more!



Intensify innovation and technology adoption to improve productivity and moderate manpower demand

Spur and accelerate industry digital transformation efforts

Growing ecosystem of digital enterprises

Increase the adoption of digital solutions through IMDA's Chief Technology Officer-as-a-Service (CTO-as-a-Service)



IMDA Singapore **IMDA** **GOVERNMENT DIGITAL**

Bring your business to the next level!

- 1 Is your business digital-ready?**
Find out using the Industry Digital Plan (IDP) for your sector.
- 2 How do you get started?**
Search for digital solutions, grants and resources based on your business needs.
- 3 Where can you get advice?**
Get free digital consultancy and project management services.

Go digital today with **CTO-as-a-Service**

QR code and ps.gov.sg/CTOaaS

Guide companies on the digital solutions that they can adopt at each stage of their growth with the refreshed Environmental Services Industry Digital Plan



Scan here to find out more!



Nurture promising firms to seize new opportunities and growth area

Enhance export capabilities of technology and services providers

Develop relevant innovative ES solutions to meet growing overseas demand

Examples of growth areas:

Waste and Resources Management:

Smart solutions, incineration bottom ash treatment, waste-to-resources such as Li-ion and plastic recycling



With strategic investment from Keppel Seghers, Zerowaste Asia complements Keppel Seghers' portfolio of solutions, expanding the enterprises' global reach as a provider of solutions for sustainable urbanisation

Environmental Public Health:

Robotic and specialised cleaning solutions



Lionsbot's autonomous floor scrubber robots



Ministry of Clean's disinfecting coating technology, AirTumTec Pro



Nurture promising firms to seize new opportunities and growth area

Capture overseas growth opportunities

Profile at iconic platforms

Local enterprises can leverage on NEA's global networking platform - CleanEnviro Summit Singapore - to showcase their innovations to the international audience



High-level plenary at the CleanEnviro Summit Singapore 2022



Profiling capabilities at CleanEnviro Summit Singapore Expo



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Local enterprises can participate in mission trips organised by trade associations to seek technological collaborations in developed market(s) and promote their solutions in growth markets



EMAS' mission trip to Interclean Amsterdam 2022



WMRAS' mission trip to IFAT 2022 in Munich, Germany



Grow productive firms to enhance service delivery, capacity and resilience

Build demand resilience

Broaden base of services by building capabilities of enterprises to serve multiple sectors

Progressive companies can work with NEA and Enterprise SG, to grow new capabilities and broaden their range of services to enhance their value proposition to customers

For example, companies like 800 Super provide integrated environmental services to customers for waste collection and cleaning services



800 Super's cleaning robot 800 Super's electric vehicle waste collection truck

Optimise resources for operational resilience

Enable resilience in enterprise development

Drive growth mindset and leadership development through Enterprise Leadership for Transformation (ELT)



Scan here to find out more!

ELT supports business leaders of promising enterprises such as BR Metals, a specialist metals recycling company, as well as Primech A&P - a cleaning service provider, in charting their business growth



Grow productive firms to enhance service delivery, capacity and resilience

Optimise resources for operational resilience

Raise industry standards

Drive change in procurement practices and business contracting models through outcome-based contracting

Promote simplified performance management of outcome-based contracts and use of e-inspection systems



Use of e-inspection systems for cleaning

Curate outcome-based contracting clinics and training for service buyers



Speaker sharing on meeting customer expectations in an outcome-based contract



Briefing to Government Procurement Entities on the use of outcome-based contracting to procure cleaning services



Scan here to find out more!



Create quality jobs and improve job prospects for lower-wage and senior workers

Develop local talent pipeline to take on quality jobs through talent attraction programmes

NEA-Industry Scholarship Programme

In partnership with Environmental Services (ES) companies, scholarships are offered to students of Polytechnics and Institutes of Technical Education to join the ES industry



Participating companies:

- 800 Super Waste Management Pte Ltd
- Cleaning Express Pte Ltd
- Horsburgh Integrated Services Pte Ltd
- ISS Facilities Pte Ltd
- LS 2 Services Pte Ltd
- Primech A&P Pte Ltd
- RS Facilities Services Pte Ltd
- TES AMM (Singapore) Pte Ltd



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Enhance industry branding



Recognition of the commitment and excellence of Environmental Services (ES) companies and employees through appreciation events such as ES Workforce Day and ES Star Awards



Inaugural ES Star Awards in 2019 presented by President Halimah Yacob



Recipients of ES Star Awards 2022 with DPM Heng Swee Keat and Minister for Sustainability and the Environment Grace Fu

Refreshed Guide to Uniforms for ES Industry to professionalise the image of the ES workforce



New chapter on Personal Protective Equipment featured in the 2nd edition of the Guide



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Create quality jobs and improve job prospects for lower-wage and senior workers

Improve job prospects for lower-wage and senior workers

Progressive Wage Model (PWM)

Drive wage growth and progression through PWM to uplift ~41,000 workers for the cleaning sector and ~3,000 workers for the waste management sector (from July 2023)



Skills



Productivity



Career Progress



Wages

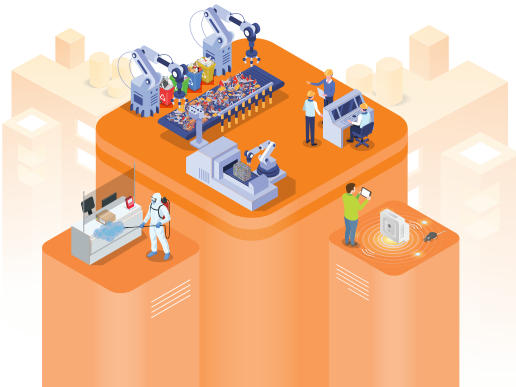
Upskilling the existing workforce

Strengthening Continuing Education and Training (CET) courses to develop skills and competencies for the Environmental Services Industry, in collaboration with SkillsFuture Singapore, Workforce Singapore, Institutes of Higher Learning and approved training providers



Scan here to find out more!

Senior workers can upskill and perform new tasks with the use of technology



Jobs Transformation Map for Environmental Services Industry

Provide detailed insights on the impact of technology and automation on workforce for the cleaning and waste management sectors

Key technological and demographic trends impacting the Environmental Services workforce



Accelerated technology adoption

- Improved operational efficiency



Increase in service demand

- To meet new business needs and higher customer expectations
- More interest in sustainability and stricter hygiene standards



Increased competition for talents

- To cultivate an innovative and manpower-lean workforce



Setting the cleaning route for the autonomous vacuum sweeper

Impacted job roles in the Environmental Services industry

General Cleaner

General Waste Collection Crew

Waste Recycling Sorter

Impacted Job Scope

- Increase use of digital tools, robotics and automation
- Increase communication with customer, including troubleshooting operational issues (For General Cleaner and General Waste Collection Crew only)

Skill sets required

- Communication
- Problem Solving
- Robotics and Automation
- Internet of Things

Emerging job roles in the Environmental Services industry

Sustainability Specialist

- Sustainability Reporting
- Environmental Sustainability Management
- Environmental Management Systems

Data Analyst

- Data Cleaning and Preparation
- Data Analysis and Exploration
- Statistical Knowledge
- Creating Data Visualisations

Integrated Facilities Management Specialist

- Contract Management
- Facilities Management
- Stakeholder Management



Jobs Transformation Map for Environmental Services Industry

The JTM identified recommendations to support job transformation and upskilling as existing job roles evolve and new jobs emerge

Future-proofing the workforce

Develop local talent pipeline to take on quality jobs

- NEA-Industry Scholarship



Mr Abdul Qahar (right), an 800 Super Waste Management Pte Ltd scholar with Senior Minister of State for Sustainability and the Environment, Dr Amy Khor

Job redesign

- 4D job redesign framework digital self-help guide
- Redesigning jobs for the Environmental Services industry masterclass
- Environmental Services job redesign consultancy package



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Reskilling and facilitating mid-career conversions

- Career Conversion Programme (CCP) for Environmental Services Specialist
- CCP for Sustainability Professionals
- CCP for Professional Executives

